

Tunable Laser Light Source System

The aim of the project is to use fiber optic sensors mounted on or embedded in the composite structure for ultrasonic sensing, resulting from either low velocity impact or acoustic emission. The entire system incorporating a new phased shift-Fiber Bragg Grating shall provide a steeper linear region, enhancing the ultrasonic sensing resolution.

- The fiber optic sensing system requires a sensitive laser light source with narrow linewidth <100 kHz.
- The system requires a tunable capability near the 1550 nm range.
- The swept system shall have an ultra-high resolution of 0.1 pm
- A fast sweep rate of 100 nm/second
- Wide tuning range of 1480-1640 nm.
- The system shall include a swept processing unit for fast data acquisition and automatic referencing.